

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

B2EU
Revision 18
Thunder Models

AX5-42 (S.1)	AX8-90 (S.1)
AX5-42 BOLT	AX8-90 (S.2)
AX6-56 (S.1)	AX8-105 (S.1)
AX6-56A	AX8-105 (S.2)
AX6-56Z	AX9-120 (S.1)
AX6-56 BOLT	AX9-120 (S.2)
AX7-65 (S.1)	AX9-140 (S.2)
AX7-65Z	AX10-160(S.1)
AX7-65 BOLT	AX10-160(S.2)
AX7-77 (S.1)	AX10-180(S.1)
AX7-77A	AX10-180(S.2)
AX7-77Z	AX10-210(S.2)
AX7-77 BOLT	AX11-225(S.2)
	AX11-250(S.2)

May 28, 1999

TYPE CERTIFICATE DATA SHEET NO. B2EU

This data sheet which is part of Type Certificate NO. B2EU prescribes conditions and limitations under which the product for which Type Certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder: Cameron Balloons Ltd.
St. John's Street
Bedminster
Bristol BS3 4NH
United Kingdom

I. Model AX5-42(S.1), 42,000 cu.ft. (1,180 cu.m) 12 gore, hot air balloon, approved January 19, 1977.
Model AX5-42 BOLT same as Model AX5-42 (S.1) except 8 gore, approved March, 1979.

Air Heater. Colt Mk II
Single Burner (Standard)

Thunder Balloons assembly
Single Unit (optional)

Colt Magnum Superseal
Single Burner (optional)

Thunder and Colt Stratus
Single Burner (optional)
Double Burner (optional)

Basket. 40" x 40" Swept + Flat top
40" x 48" Swept + Flat top

Fuel. Commercial LPG or Propane.

Maximum Weight. 920 lbs. (See NOTE 1)

[illegible]

I. Model AX5-42(S.1), Model AX5-42 BOLT (cont.)

<u>Allowable Envelope Temperature.</u>	127°C (257°F) Never exceed. 120°C (248°F) Maximum continuous.
<u>Fuel Capacity.</u>	Minimum two full cylinders for launch. Maximum - Not to exceed Flight Manual weight limitations (See NOTE 5).
<u>Minimum Crew.</u>	1 pilot.
<u>Maximum Occupants.</u>	Not to exceed Flight Manual weight limitations (See NOTE 1).
<u>Serial Numbers Eligible.</u>	See "Import Requirements".

II. Model AX6-56(S.1), 56,000 cu.ft. (1,590 cu.m), 12 gore hot air balloon, approved May 15, 1975.
Model AX6-56A same as AX6-56 (S.1) except 24 or 28 gore, approved May 15, 1975.
Model AX6-56Z similar to AX6-56A except 20 gore, approved March 1, 1979.
Model AX6-56 BOLT similar to AX6-56(S.1) except 8 gore, approved March 1, 1979.

<u>Air Heater.</u>	<u>Colt Mk II</u> Single Burner (optional) Double Burner (standard) <u>Colt MK III</u> Double Burner (optional) <u>Colt Magnum Superseal</u> Double Burner (optional) <u>Thunder and Colt Stratus</u> Single Burner (optional) Double Burner (optional) <u>Thunder Balloons assembly</u> Single unit (optional) Twin coupled unit (optional)
<u>Basket.</u>	40" x 40" Swept + Flat top 40" x 48" Swept + Flat top 40" x 54" Swept + Flat top
<u>Fuel.</u>	Commercial LPG or Propane.
<u>Maximum Weight.</u>	1226 lbs. (See NOTE 1).
<u>Allowable Envelope Temperature.</u>	127°C (257°F) Never exceed. 120°C (248°F) Maximum continuous.
<u>Fuel Capacity.</u>	Minimum two full cylinders for launch. Maximum - Not to exceed Flight Manual weight limitations (See NOTE 5).
<u>Minimum Crew.</u>	1 pilot.
<u>Maximum Occupants.</u>	Not to exceed Flight Manual load chart limitations (See NOTE 1).
<u>Serial Numbers Eligible.</u>	See "Import Requirements".

III. Model AX7-65(S.1), 65,000 cu.ft. (1,890 cu.m), 12 gore, hot air balloon, approved May 15, 1975.
Model AX7-65Z similar to AX7-65 (S.1) except 24 gore, approved March 1, 1979.
Model AX7-65 BOLT similar to AX7-65(S.1) except 8 gore, approved March 1, 1979.

<u>Air Heater.</u>	<u>Colt Mk II</u> Double Burner (standard) Single Burner (optional) <u>Colt Mk III</u> Double Burner (optional) <u>Colt Magnum Superseal</u> Single Burner (optional) Double Burner (optional) <u>Thunder and Colt Stratus</u> Single Burner (optional) Double Burner (optional)
<u>Basket.</u>	40" x 40" Swept + Flat top 40" x 48" Swept + Flat top 40" x 54" Swept + Flat top
<u>Fuel.</u>	Commercial LPG or Propane.
<u>Maximum Weight.</u>	1433 lbs. See NOTE 1.
<u>Allowable Envelope Temperature.</u>	127°C (257°F) Never exceed. 120°C (248°F) Maximum continuous.
<u>Fuel Capacity.</u>	Minimum two full cylinders for launch. Maximum - Not to exceed Flight Manual weight limitations (See NOTE 5).
<u>Minimum Crew.</u>	1 pilot.
<u>Maximum Occupants.</u>	Not to exceed Flight Manual load chart limitations (See NOTE 1).
<u>Serial Numbers Eligible.</u>	See "Import Requirements"

IV. Model AX7-77(S.1), 77,000 cu.ft. (2,180 cu.m), 12 gore, hot air balloon, approved May 15, 1975.
Model AX7-77A similar to AX7-77 (S.1) except 28 or 32 gore, approved May 15, 1975.
Model AX7-77Z similar to AX7-77A except 24 gore, approved March 1, 1979.
Model AX7-77 BOLT similar to AX7-77 (S.1) except 8 gore, approved March 1, 1979.

<u>Air Heater.</u>	<u>Colt Mk II</u> Double Burner (standard) Single Burner (optional) <u>Colt Mk III</u> Double Burner (optional) <u>Colt Magnum Superseal</u> Double Burner (optional) Single Burner (optional) <u>Thunder and Colt Stratus</u> Single Burner (optional) Double Burner (optional)
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IV. **Model AX7-77(S.1), Model AX7-77A, Model AX7-77Z , Model AX7-77 BOLT (cont..)**

<u>Air Heater., cont.</u>	<u>Thunder Balloon Assembly</u> Single Unit (optional) Twin coupled unit (optional)
<u>Basket</u>	40" x 40" Swept + Flat top 40" x 48" Swept + Flat top 40" x 54" Swept + Flat top 40" x 60" Swept + Flat top
<u>Fuel.</u>	Commercial LPG or Propane.
<u>Maximum Weight.</u>	1698 lbs. (See NOTE 1)
<u>Allowable Envelope Temperature.</u>	127°C (257°F) Never exceed. 120°C (248°F) Maximum continuous.
<u>Fuel Capacity.</u>	Minimum two full cylinders for launch. Maximum - Not to exceed Flight Manual weight limitations (See NOTE 5).
<u>Minimum Crew.</u>	1 pilot.
<u>Maximum Occupants.</u>	Not to exceed Flight Manual load chart limitations (See NOTE 1).
<u>Serial Numbers Eligible.</u>	See "Import Requirements".

V. **Model AX8-90(S.2), 90,000 cu.ft. (2,550 cu.m), 20 gore, hot air balloon, approved October 24, 1980.**
Model AX8-90(S.1), similar to AX8-90(S.2) except 12 gore, approved January 13, 1992.

<u>Air Heater.</u>	<u>Colt Mk II</u> Double Burner (standard) Double with Liquid Fire (optional) Triple Burner (optional) <u>Colt Mk III</u> Double Burner (optional) Double with Liquid Fire (optional) Triple Burner (optional) <u>Colt Magnum Superseal</u> Double Burner (optional) Double with UQLF (optional) Triple Burner (optional) Single Burner (optional) <u>Thunder and Colt Stratus</u> Single Burner (optional) Double Burner (optional) <u>Thunder Balloons Assembly</u> Twin Coupled unit (optional)
<u>Basket.</u>	40" x 40" Swept + Flat top 40" x 48" Swept + Flat top 40" x 54" Swept + Flat top 40" x 60" Swept + Flat top

V. **Model AX8-90(S.1), Model AX8-90(S.2)** (cont.)

<u>Basket, cont.</u>	48" x 68" Swept + Flat top 48" x 68" T-partition 48" x 82" T-partition
<u>Fuel.</u>	Commercial LPG or Propane.
<u>Maximum Weight.</u>	1984 lbs. (See NOTE 1)
<u>Allowable Envelope Temperature.</u>	127°C (257°F) Never exceed. 120°C (248°F) Maximum continuous.
<u>Fuel Capacity.</u>	Minimum two full cylinders for launch. Maximum - Not to exceed Flight Manual weight limitations (See NOTE 5).
<u>Minimum Crew.</u>	1 pilot.
<u>Maximum Occupants.</u>	Not to exceed Flight Manual load chart limitations (See NOTE 1).
<u>Serial Numbers Eligible.</u>	See "Import Requirements".

VI. **Model AX8-105(S.2), 105,000 cu.ft. (2,970 cu.m), 20 gore, hot air balloon, approved May 15, 1975.**
Model AX8-105(S.1), similar to AX8-105(S.2) except 12 gore, approved January 13, 1992.

<u>Air Heater.</u>	<u>Colt Mk II</u> Double Burner (standard) Double with Liquid Fire (optional) Triple Burner (optional) <u>Colt Mk III</u> Double Burner (optional) Double with Liquid Fire (optional) Triple Burner (optional) <u>Colt Magnum Superseal</u> Double Burner (optional) Double with UQLF (optional) Triple Burner (optional) <u>Thunder and Colt Stratus</u> Double Burner (optional) Triple Burner (optional) <u>Thunder Balloons Assembly</u> Twin coupled unit (optional)
<u>Basket.</u>	40" x 54" Swept + Flat top 40" x 48" Swept + Flat top 40" x 60" Swept + Flat top 48" x 68" Swept + Flat top 48" x 68" T-partition 48" x 82" T-partition 48" x 87" T-partition

VI. Model AX8-105(S.1), Model AX8-105(S.2) (cont.)

<u>Fuel.</u>	Commercial LPG or Propane
<u>Maximum Weight.</u>	2315 lbs. (See NOTE 1).
<u>Allowable Envelope Temperature.</u>	127°C (257°F) Never Exceed. 120°C (248°F) Maximum continuous.
<u>Fuel Capacity.</u>	Minimum two full cylinders for launch. Maximum - Not to exceed Flight Manual weight limitations (See NOTE 5).
<u>Minimum Crew.</u>	1 pilot.
<u>Maximum Occupants.</u>	Not to exceed Flight Manual load chart limitations (See NOTE 1).
<u>Serial Numbers Eligible.</u>	See "Import Requirements".

**VII. Model AX9-120(S.2), 120,000 cu.ft. (3,400 cu.m), 20 gore, hot air balloon, approved January XX, 1999.
Model AX9-120(S.1), similar to AX9-120(S.2), except 12 gore, approved January XX, 1999.**

<u>Air Heater.</u>	<u>Colt Mk II</u> Double Burner (standard) Double with Liquid Fire (optional) Triple Burner (optional) <u>Colt Mk III</u> Double Burner (optional) Double with Liquid Fire (optional) Triple Burner (optional) <u>Colt Magnum Superseal</u> Double Burner (optional) Double with UQLF (optional) Triple Burner (optional) <u>Thunder and Colt Stratus</u> Double Burner (optional) Triple Burner (optional) <u>Thunder Balloons Assembly</u> Twin Coupled unit (optional)
<u>Basket.</u>	40" x 60" Swept + Flat top 48" x 68" Swept + Flat top 48" x 68" T-partition 48" x 82" T-partition 48" x 87" T-partition
<u>Fuel.</u>	Commercial LPG or Propane.
<u>Maximum Weight.</u>	2646 lbs. (See NOTE 1)
<u>Allowable Envelope Temperature.</u>	127°C (257°F) Never exceed. 120°C (248°F) Maximum continuous.
<u>Fuel Capacity.</u>	Minimum two full cylinders for launch. Maximum - Not to exceed Flight Manual weight limitations (See NOTE 5).

VII. Model AX9-120(S.1), Model AX9-120(S.2) (cont.)

<u>Minimum Crew.</u>	1 pilot.
<u>Maximum Occupants.</u>	Not to exceed Flight Manual load chart limitations (See NOTE 1).
<u>Serial Numbers Eligible.</u>	See "Import Requirements".

VIII. Model AX9-140(S.2), 140,000 cu.ft. (3,970 cu.m), 20 gore, hot air balloon, approved November 9, 1981.

<u>Air Heater.</u>	<u>Colt Mk II</u> Double Burner (standard) Double with Liquid Fire (optional) Triple Burner (optional) Triple with Liquid Fire (optional) Quadruple Burner (optional) <u>Colt Mk III</u> Double Burner (optional) Double with Liquid Fire (optional) Triple Burner (optional) Triple with Liquid Fire (optional) Quadruple Burner (optional) <u>Colt Magnum Superseal</u> Double Burner (optional) Double with UQLF (optional) Triple Burner (optional) Triple with UQLF (optional) Quadruple Burner (optional) <u>Thunder and Colt Stratus</u> Double Burner (optional) Triple Burner (optional) <u>Thunder Balloons Assembly</u> Twin Coupled unit (optional)
<u>Basket.</u>	40" x 60" Swept + Flat top 48" x 68" Swept + Flat top 48" x 82" T-partition 48" x 87" T-partition 60" x 87" Small + Large compartment T-partition 60" x 110" Double T-partition
<u>Fuel.</u>	Commercial LPG or Propane.
<u>Maximum Weight.</u>	3087 lbs. (See NOTE 1)
<u>Allowable Envelope Temperature.</u>	127°C (257°F) Never exceed. 120°C (248°F) Maximum continuous.
<u>Fuel Capacity.</u>	Minimum two full cylinders for launch. Maximum - Not to exceed Flight Manual weight limitations (See NOTE 5).
<u>Minimum Crew.</u>	1 pilot.
<u>Maximum Occupants.</u>	Not to exceed Flight Manual load chart limitations (See NOTE 1).

VIII. Model AX9-140(S.2) (cont.)Serial Numbers Eligible.

See "Import Requirements".

**IX. Model AX10-160 (S.1), 160,000 cu.ft. (4,531 cu.m), 12 gore, hot air balloon, approved January 13, 1992.
Model AX10-160 (S.2), Similar to AX10-160(S.1) except 20 gores, Approved January xx, 1999.**Air Heater.Colt Mk II

Double Burner (standard)
 Double with Liquid Fire (optional)
 Triple Burner (optional)
 Triple with Liquid Fire (optional)
 Quadruple Burner (optional)

Colt Mk III

Double Burner (optional)
 Double with Liquid Fire (optional)
 Triple Burner (optional)
 Triple with Liquid Fire (optional)
 Quadruple Burner (optional)

Colt Magnum Superseal

Double Burner (optional)
 Double with UQLF (optional)
 Triple with UQLF (optional)
 Quadruple Burner (optional)

Thunder and Colt Stratus

Double Burner (optional)
 Triple Burner (optional)
 Quadruple Burner (optional)

Thunder Balloons Assembly

Twin Coupled unit (optional)

Basket.

48" x 68" Swept + Flat top
 48" x 82" T-partition
 48" x 87" T-partition
 60" x 87" Small + Large compartment T-partition
 60" x 102" Small + Large compartment T-partition
 60" x 110" Double T-partition

Fuel.

Commercial LPG or Propane.

Maximum Weight.

3197 lbs. (See Note 1).

Allowable Envelope
Temperature.

127°C (257°F) Never exceed.
 120°C (248°F) Maximum continuous.

Fuel Capacity.

Minimum two full cylinders for launch.
 Maximum - Not to exceed Flight Manual weight limitations (See NOTE 5).

Minimum Crew.

1 pilot.

Maximum Occupants.

Not to exceed Flight Manual load chart limitations (See NOTE 1).

Serial Numbers Eligible.

See "Import Requirements".

- X. Model AX10-180 (S.1), 180,000 cu.ft. (5,098 cu.m), 12 gore, hot air balloon, approved January 13, 1992.
Model AX10-180 (S.2), similar to AX10-180(S.1), except with 20 gores, approved January xx, 1999.

Air Heater.Colt Mk II

Double Burner (standard)
 Double with Liquid Fire (optional)
 Triple Burner (optional)
 Triple with Liquid Fire (optional)
 Quadruple Burner (optional)

Colt Mk III

Double Burner (optional)
 Double with Liquid Fire (optional)
 Triple Burner (optional)
 Triple with Liquid Fire (optional)
 Quadruple Burner (optional)

Colt Magnum Superseal

Double Burner (optional)
 Double with UQLF (optional)
 Triple Burner (optional)
 Triple with UQLF (optional)
 Quadruple Burner (optional)

Thunder and Colt Stratus

Double Burner (optional)
 Triple Burner (optional)
 Quadruple Burner (optional)

Thunder Balloons Assembly

Twin Coupled unit (optional)

Basket.

48" x 68" Swept + Flat top
 48" x 82" T-partition
 48" x 87" T-partition
 60" x 87" Small + Large compartment T-partition
 60" x 102" Small + Large compartment T-partition
 60" x 98" Double T-partition
 60" x 110" Double T-partition
 60" x 118" Double T-partition

Fuel.

Commercial LPG or Propane.

Maximum Weight.

3197 lbs. AX10-180(S.1) (See Note 1).
 3594 lbs. AX10-180(S.2)

Allowable Envelope Temperature.

127°C (257°F) Never exceed.
 120°C (248°F) Maximum continuous.

Fuel Capacity.

Minimum two full cylinders for launch.
 Maximum - Not to exceed Flight Manual weight limitations (See NOTE 5).

Minimum Crew.

1 pilot.

Maximum Occupants.

Not to exceed Flight Manual load chart limitations (See NOTE 1).

Serial Numbers Eligible.

See "Import Requirements".

XI. Model AX10-210 (S.2), 210,000 cu.ft. (5,950 cu.m), 20 gore, hot air balloon, approved January xx, 1999.

<u>Air Heater.</u>	<u>Colt Mk II</u> Double with Liquid Fire (standard) Triple Burner (optional) Triple with Liquid Fire (optional) Quadruple Burner (optional) <u>Colt Mk III</u> Double with Liquid Fire (optional) Triple Burner (optional) Triple with Liquid Fire (optional) Quadruple Burner (optional) <u>Colt Magnum Superseal</u> Double with UQLF (optional) Triple Burner (optional) Triple with UQLF (optional) Quadruple Burner (optional) <u>Thunder and Colt Stratus</u> Triple Burner (optional) Quadruple Burner (optional)
<u>Basket.</u>	60" x 87" Small + Large compartment T-partition 60" x 102" Small + Large compartment T-partition 60" x 98" Double T-partition 60" x 110" Double T-partition 60" x 118" Double T-partition 60" x 126" Double T-partition
<u>Fuel.</u>	Commercial LPG or Propane.
<u>Maximum Weight.</u>	4189 lbs. (See Note 1).
<u>Allowable Envelope Temperature.</u>	127°C (257°F) Never exceed. 120°C (248°F) Maximum continuous.
<u>Fuel Capacity.</u>	Minimum two full cylinders for launch. Maximum - Not to exceed Flight Manual weight limitations (See NOTE 5).
<u>Minimum Crew.</u>	1 pilot.
<u>Maximum Occupants.</u>	Not to exceed Flight Manual load chart limitations.
<u>Serial Numbers Eligible.</u>	See "Import Requirements".

XII. Model AX11-225(S.2), 225,000 cu.ft. (6,370 cu.m), 20 gore, hot air balloon, approved January xx, 1999.

<u>Air Heater.</u>	<u>Colt Mk II</u> Double with Liquid Fire (standard) Triple Burner (optional) Triple with Liquid Fire (optional) Quadruple Burner (optional)
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XII. Model AX11-225(S.2), (cont.)Air Heater, (cont.)Colt Mk III

Double with Liquid Fire (optional)
 Triple Burner (optional)
 Triple with Liquid Fire (optional)
 Quadruple Burner (optional)

Colt Magnum Superseal

Double with UQLF (optional)
 Triple Burner (optional)
 Triple with UQLF (optional)
 Quadruple Burner (optional)

Thunder and Colt Stratus

Triple Burner (optional)
 Quadruple Burner (optional)

Basket.

60" x 87" Small + Large compartment T-partition
 60" x 102" Small + Large compartment T-partition
 60" x 98" Double T-partition
 60" x 110" Double T-partition
 60" x 118" Double T-partition
 60" x 126" Double T-partition

Fuel.

Commercial LPG or Propane.

Maximum Weight.

4,500 lbs. (See Note 1).

Allowable Envelope
Temperature.

127°C (257°F) Never exceed.
 120°C (248°F) Maximum continuous.

Fuel Capacity.

Minimum two full cylinders for launch.
 Maximum - Not to exceed Flight Manual weight limitations (See NOTE 5).

Minimum Crew.

1 pilot.

Maximum Occupants.

Not to exceed Flight Manual load chart limitations.

Serial Numbers Eligible.

See "Import Requirements".

XIII. Model AX11-250 (S.2), 250,000 cu.ft. 7,080 cu.m), 20 gore, hot air balloon, approved January xx, 1999.Air Heater.Colt Mk II

Double with Liquid Fire (standard)
 Triple Burner (optional)
 Triple with Liquid Fire (optional)
 Quadruple Burner (optional)

Colt Mk III

Double with Liquid Fire (optional)
 Triple Burner (optional)
 Triple with Liquid Fire (optional)
 Quadruple Burner (optional)

XIII. Model AX11-250 (S.2), (cont.)Air Heater, (cont.)Colt Magnum Superseal

Double with UQLF (optional)
 Triple Burner (optional)
 Triple with UQLF (optional)
 Quadruple Burner (optional)

Thunder and Colt Stratus

Triple Burner (optional)
 Quadruple Burner (optional)

Basket.

60" x 87" Small + Large compartment T-partition
 60" x 102" Small + Large compartment T-partition
 60" x 98" Double T-partition
 60" x 110" Double T-partition
 60" x 118" Double T-partition
 60" x 126" Double T-partition
 60" x 138" Double T-partition
 60" x 160" Double T-partition
 60" x 170" Double T-partition

Fuel.

Commercial LPG or Propane.

Maximum Weight.

5,000 lbs. (See Note 1).

Allowable Envelope
Temperature.

127°C (257°F) Never exceed.
 120°C (248°F) Maximum continuous.

Fuel Capacity.

Minimum two full cylinders for launch.
 Maximum - Not to exceed Flight Manual weight limitations (See NOTE 5).

Minimum Crew.

1 pilot.

Maximum Occupants.

Not to exceed Flight Manual load chart limitations.

Serial Numbers Eligible.

See "Import Requirements".

DATA PERTINENT TO ALL MODELS.Import Requirements.

A U.S. Standard Airworthiness Certificate may be issued on the basis of a Certificate of Airworthiness for Export, signed by a representative of the UK Civil Aviation Authority, Airworthiness Division, containing the following statement: "The balloon covered by this certificate has been examined, tested and found to conform to the type design approved under FAA Type Certificate B2EU and to be in a condition for safe operation".

Certification Basis.

FAR 21.29 and FAR 31 effective July 1, 1964 as amended by Amendments 31-1 and 31-2. Amendment 31-4 for Models AX8-90 (S.1), AX8-105 (S.1), AX10-160 (S.1) and AX10-180 (S.1).
 Type Certificate B2EU, issued May 15, 1975.
 Date of application for Type Certificate January 17, 1974.
 Amended January 19, 1977 to include Model AX5-42 (S.1) and AX5-42A.
 Amended March 1, 1979 to include Models AX6-56Z; AX6-56 BOLT; AX7-65Z; AX7-65 BOLT; AX7-77Z; AX7-77 BOLT and to delete approval of the Model AX5-42 and to reduce the maximum weight for the AX8-105 to 1848 lbs.
 Amended October 24, 1980 to include AX8-90 (S.2)
 Amended December 21, 1982 to add series designators (S.1) and (S.2).

Certification Basis, (cont.)

Amended January 13, 1992 to add AX8-90(S1), AX8-105(S1), AX10-160(S1) and AX10-180(S1).

Amended May 28, 1999 to add baskets, sized 40" x 40", 48" x 62", 48" x 82", 48" x 87", and 60" x 110" to certain balloon models, to add CBUS1050 and CBUS1060 Fuel Cylinders, and to add Models AX9-120(S.1), AX9-120(S.2), AX10-160(S.2), AX10-180(S.2), AX10-210(S.2), AX11-225(S.2), and AX11-250(S.2).

The applicable airworthiness requirements for US certification under FAR 21.29 identified above were established considering the airworthiness requirements applied by the exporting country, and the provisions of paragraphs 4 and 9(h)(ii) of the agreement between the United States of America and the United Kingdom of Great Britain and Northern Ireland dated December 28, 1972, titled Certificates of Airworthiness for Imported Aircraft.

Certification Basis
for Models Produced
Under License.

For models produced under license agreement by Thunder & Colt America, the certification basis is the same as for imported models, i.e., FAR 31 effective July 1, 1964, as amended by Amendments 31-1 and 31-2. Type Certificate B2EU also approves the design of all models produced by Thunder & Colt America. Thunder & Colt America models are thus eligible for a standard airworthiness certificate in accordance with FAR 21.183(a).

Validation Basis.

Type Certificate No. B2EU was issued pursuant to FAR 21.29 in validation of the UK CAA's certification of compliance with the aforementioned FAA certification basis.

Equipment.

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) and required placards (see NOTE 2), must be installed in the balloon for standard airworthiness certificate. In addition the following equipment is required:

1. Burner lighter-sparker or 2 boxes of matches or equivalent.
2. CAA-approved Thunder & Colt Balloons Flight Manual, Issue 5, dated July 1987, or subsequent revisions.
3. Fire extinguisher.

Service Information.

Thunder & Colt Technical Information (Service Bulletins), published in the English Language for the US Type Designs that carry a statement "Approved by the United Kingdom Civil Airworthiness Authority (UK CAA)" may be interpreted as FAA approved.

NOTE 1.

MAXIMUM WEIGHT; permitted takeoff weight (never exceed weight) for balloons up to and including 140,000 cu.ft is based on a lift capability of 21.9 lbs/1,000 cu.ft of volume at a maximum continuous operating temperature of 100°C (212°F) during a 0°C (32°F) ambient air temperature at sea level and constitutes a design stressing case.

Permitted takeoff weight for balloons of 160,000 cu.ft is based on a lift capability of 19.98 lbs/1,000 cu.ft of volume at the above conditions.

Permitted takeoff weight for balloons of 180,000 cu.ft and larger is based on a lift capability of 17.76 lbs/1,000 cu.ft of volume at the above conditions.

See Thunder and Colt Balloons Flight Manual, current issue, loading instructions.

Maximum normal takeoff weight: (normal gross) is based on a lift capability of 17.6 lb./1000 cu.ft of volume at a maximum continuous operating temperature of 100°C (212°F) during a 15°C (59°F) ambient air temperature at sea level to establish a lift between 2000 and 3000 ft altitude. See Thunder & Colt Balloons Flight Manual loading instructions.

NOTE 1. (cont.)

Current weight information, including the list of equipment included in certificated empty weight and loading instructions, when necessary, must be provided for each balloon at the time of original certification.

NOTE 2.

Required placards to be placed so as to be conspicuous to pilot:

Maximum continuous operating temperature 120°C (248°F)

Never exceed temperature 127°C (257°F)

The maximum recommended rate of climb and descent should not exceed 1000 FPM (5m/sec).

Maximum mean wind speed 15 kts.

NOTE 3.

Maintenance and Inspection:

In addition to annual inspection required by FAR 91.409, the maintenance and inspection requirements of Thunder & Colt Balloon Flight Manual Maintenance Section dated December 11, 1981, or subsequent approved revisions, must be followed. The inspection periods approved by UK CAA are:

Routine Pre-flight

100 hour

300 hour

NOTE 4.

Serial Numbers 002 through 012, 014, 015, 016, 018, 019, 020 and 027 must have British Balloon and Airship Club Mandatory Modification No. 5, dated February 1, 1975 accomplished prior to Standard Airworthiness Certification.

NOTE 5.

Fuel Cylinders permitted:

The following fuel cylinders are permitted in construction and use based on FAR 31.27 and FAR 31.45. Cylinders may be used in any combination.

Thunder & Colt Model V20 Fuel Cylinder, Stainless Steel

Capacity 20 kg. (10 US gallons)

Empty Weight 14 kg (30.9 lb.) each

Full Weight 34 kg (75.0 lb.) each

Maximum working pressure: 232 PSI

Maximum test pressure: 465 PSI

Burst pressure: 930 PSI

Thunder & Colt Model V30 Fuel Cylinder, Stainless Steel

Capacity 30 kg. (15 US gallons)

Empty Weight 17 kg (37.4 lb.) each

Full Weight 47 kg (103.6 lb.) each

Maximum working pressure: 232 PSI

Maximum test pressure: 465 PSI

Burst pressure: 930 PSI

Thunder & Colt Model V40 Fuel Cylinder, Stainless Steel

Capacity 40 kg. (21 US gallons)

Empty Weight 20 kg (44 lb.) each

Full Weight 60 kg (133 lb.) each

Maximum working pressure: 235 PSI

Maximum test pressure: 470 PSI

Burst pressure: 1000 PSI

Worthington Model LE-43-U4 fuel cylinder, Aluminum DOT Spec. 4E-240

Capacity 20 kg. (10 US gallons)

Empty Weight 12 kg (26.5 lb.) each

Full Weight 32 kg (70.6 lb.) each

NOTE 5. (cont.)

Cameron Balloons/Thunder & Colt CB599 Fuel Cylinder, Stainless Steel

Capacity 21 kg (11 US Gallons)
 Empty Weight 15 kg (33.0 lb.) each
 Full weight 36 kg (79.5 lb.) each
 Maximum working pressure: 232 PSI
 Maximum test pressure: 465 PSI
 Burst Pressure: 930 PSI

Cameron Balloons/Thunder & Colt CB426 Fuel Cylinder, Stainless Steel

Capacity 30 kg (15 US gallons)
 Empty Weight 21 kg (46.4 lb.) each
 Full Weight 54 kg (112.7 lb.) each
 Maximum working pressure: 232 PSI
 Maximum test pressure: 465 PSI
 Burst Pressure: 930 PSI

Cameron Balloons/Thunder & Colt CB959 Fuel Cylinder, Stainless Steel

Capacity 40 kg (20 US gallons)
 Empty Weight 23 kg (50.8 lb.) each
 Full weight 63 kg (139.21 lb.) each
 Maximum working pressure: 235 PSI
 Maximum test pressure: 470 PSI
 Burst pressure: 1000 PSI

Cameron Balloons/Thunder & Colt CBUS1050 Fuel Cylinder, Stainless Steel

Capacity 33 kg (15 US gallons)
 Empty Weight 21.8 kg (48 lb.) each
 Full weight 55.2 kg (121.5 lb.) each
 Maximum working pressure: 225 PSI
 Maximum test pressure: 450 PSI
 Burst pressure: 900 PSI

Cameron Balloons/Thunder & Colt CBUS1060 Fuel Cylinder, Stainless Steel

Capacity 44 kg (20 US gallons)
 Empty Weight 24.5 kg (54 lb.) each
 Full weight 69.1 kg (152 lb.) each
 Maximum working pressure: 225 PSI
 Maximum test pressure: 450 PSI
 Burst pressure: 900 PSI

NOTE 6.

Revision 18 was composed to include new equipment and to bring the US type data in-line with that current in the country of origin, the United Kingdom.

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